10/56/048

Applicant: Shinji Nishimae et al.

Serial No.: To Be Assigned Filed : Herewith

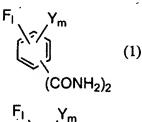
Page : 3 of 8 Attorney's Docket No.: 08917-109US1 / F 04-038 PCT/US/NS

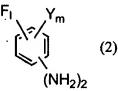
Amendments to the Claims:

14/4/05
PUT 6/21/03
1-ims in the application: This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Original) A method for the production of a fluorinated phenylenediamine represented by the following formula (2), which comprises steps of reacting a diamide represented by the following formula (1) with NaOX [wherein X stands for a bromine atom (Br) or a chlorine atom (Cl)] at a molar ratio of the NaOX to the diamide (NaOX/diamide ratio) in the range of 2.0 - 6.0 and NaOH at a molar ratio of the NaOH to the diamide (NaOH/diamide ratio) in the range of 1.8 - 6.0.





wherein in the formulas (1) and (2), Y stands for a hydrogen atom (H), a bromine atom (Br), a chlorine atom (Cl), a fluorine atom (F), a C₁ - C₅ alkyl group optionally having a substituent, or a C1 - C5 alkoxyl group optionally having a substituent, 1 is an integer in the range of 1 - 4, m is an integer in the range of 0 - 3, provided that the total number of 1 and m (1 + m) is 4.

2. (Original) A method according to claim 1, wherein said diamide is reacted with NaOX and NaOH at a temperature in the range of 0 - 20°C and the resultant reaction product is heated at a temperature exceeding 20°C and not exceeding 100°C.

Applicant: Shinji Nishimae et al. Serial No.: To Be Assigned

Filed : Herewith
Page : 4 of 8

3. (Currently Amended) A method according to claim 1[[or 2]], wherein said diamide is a diamide represented by the following formula (4) and said phenylenediamine is a phenylenediamine represented by the following formula (5).

$$H_2NOC$$
 F_3
 F

wherein in the formulas (4) and (5), Y stands for a hydrogen atom (H), a bromine atom (Br), a chlorine atom (Cl), a fluorine atom (F), a C_1 - C_5 alkyl group optionally having a substituent, or a C_1 - C_5 alkoxyl group optionally having a substituent.

- 4.) (Currently Amended) A method according to any one of claims 1 3 claim 1, wherein the molar absorption coefficient of the fluorinated phenylenediamine represented by the formula (2) at a wavelength of 450 nm is not more than 2.5 (l/mol·cm).
- 5. (Currently Amended) A method for the production of a polyamic acid represented by the formula (9), which comprises reacting the fluorinated phenylenediamine produced by the method set forth in claim 1[[or 2]] with tetracaraboxylic acid represented by the formula (8), the acid anhydride or acid chloride thereof, or the ester thereof in an organic solvent.

wherein X' stands for a tetravalent organic group,

Applicant: Shinji Nishimae et al. Serial No.: To Be Assigned

Filed: Herewith Page: 5 of 8

$$\begin{array}{c|c}
F_1 & Y_m \\
\hline
 & NHOC & CONH - (9) \\
\hline
 & HOOC & COOH
\end{array}$$

wherein Y stands for a hydrogen atom (H), a bromine atom (Br), a chlorine atom (Cl), a fluorine atom (F), a C_1 - C_5 alkyl group optionally having a substituent, or a C_1 - C_5 alkoxyl group optionally having a substituent, l is an integer in the range of 1 - 4, m is an integer in the range of 0 - 3, provided that the total number of l and m (l + m) is 4, and X' stands for a tetravalent organic group.

6. (Original) A method for the production of polyimide represented by the formula (10), which comprises cyclizing by heating the polyamic acid produced by the method set forth in claim 5:

$$\begin{array}{c|c}
F_1 & O & O \\
\hline
& V_m & C & C \\
\hline
& C & C & C \\
\hline
&$$

wherein Y stands for a hydrogen atom (H), a bromine atom (Br), a chlorine atom (Cl), a fluorine atom (F), a C_1 - C_5 alkyl group optionally having a substituent, or a C_1 - C_5 alkoxyl group optionally having a substituent, l is an integer in the range of 1 - 4, m is an integer in the range of 0 - 3, provided that the total number of l and m (l + m) is 4, and X' stands for a tetravalent organic group.

7. (New) A method according to claim 2, wherein said diamide is a diamide represented by the following formula (4) and said phenylenediamine is a phenylenediamine represented by the following formula (5).

Applicant: Shinji Nishimae et al. Serial No.: To Be Assigned

Filed: Herewith Page: 6 of 8

$$F_3$$
 $CONH_2$
 F_3
 F

wherein in the formulas (4) and (5), Y stands for a hydrogen atom (H), a bromine atom (Br), a chlorine atom (Cl), a fluorine atom (F), a C_1 - C_5 alkyl group optionally having a substituent, or a C_1 - C_5 alkoxyl group optionally having a substituent.

(8.) (New) A method according to claim 2, wherein the molar absorption coefficient of the fluorinated phenylenediamine represented by the formula (2) at a wavelength of 450 nm is not more than 2.5 (l/mol·cm).

(9.) (New) A method according to claim 3, wherein the molar absorption coefficient of the fluorinated phenylenediamine represented by the formula (2) at a wavelength of 450 nm is not more than 2.5 (1/mol·cm).

(New) A method according to claim 7, wherein the molar absorption coefficient of the fluorinated phenylenediamine represented by the formula (2) at a wavelength of 450 nm is not more than 2.5 (l/mol·cm).

11. (New) A method for the production of a polyamic acid represented by the formula (9), which comprises reacting the fluorinated phenylenediamine produced by the method set forth in claim 2 with tetracaraboxylic acid represented by the formula (8), the acid anhydride or acid chloride thereof, or the ester thereof in an organic solvent.

Applicant: Shinji Nishimae et al. Serial No.: To Be Assigned

Filed: Herewith Page: 7 of 8

wherein X' stands for a tetravalent organic group,

$$\begin{array}{c|c}
 & Y_m \\
\hline
 & NHOC \\
\hline
 & COOH
\end{array}$$

$$\begin{array}{c}
 & COOH \\
\hline
 & COOH
\end{array}$$

wherein Y stands for a hydrogen atom (H), a bromine atom (Br), a chlorine atom (Cl), a fluorine atom (F), a C_1 - C_5 alkyl group optionally having a substituent, or a C_1 - C_5 alkoxyl group optionally having a substituent, l is an integer in the range of 1 - 4, m is an integer in the range of 0 - 3, provided that the total number of 1 and m (1 + m) is 4, and X' stands for a tetravalent organic group.

12. (New) A method for the production of polyimide represented by the formula (10), which comprises cyclizing by heating the polyamic acid produced by the method set forth in claim 11:

wherein Y stands for a hydrogen atom (H), a bromine atom (Br), a chlorine atom (Cl), a fluorine atom (F), a C_1 - C_5 alkyl group optionally having a substituent, or a C_1 - C_5 alkoxyl group optionally having a substituent, l is an integer in the range of 1 - 4, m is an integer in the range of 0 - 3, provided that the total number of 1 and m (1 + m) is 4, and X' stands for a tetravalent organic group.